

1992-01-01


## Some Developments in Information Technology in the Irish Hotel and Catering Industry

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### Recommended Citation

Connell, S., Sunderland, E. & McDonnell, C. (1992) Some developments in information technology in the Irish hotel and catering industry. *IMHCI Conference*, Manchester, UK.

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## **Some Developments In Information Technology in the Irish Hotel and Catering Industry**

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### **Introduction.**

This paper describes the current and potential future use of computers in the Hospitality Industry in Ireland. It briefly outlines two research projects which are being carried out in the Dublin College of Catering in the application of computers to the Industry.

The Irish Hotel Industry represents a major section of the services sector in Ireland and is predominantly made up of small to medium size hotels. These are graded by Bord Failte, the Irish Tourist Board and the basic requirement for an establishment to operate in Ireland as a hotel is to have 10 bedrooms and a restaurant open to the public. The top hotels in the country are graded as A and A\*. These represent 20% of the industry with B\* hotels representing another 30%<sup>1</sup>. These are geographically clustered in key tourist areas.

The largest indigenous groups are Doyle's Hotels, Ryan's and Jury's who operate 17 hotels within Ireland and have the largest degree of control over the upper end of the market. The only international Hotel groups are Hilton and Forte Hotels. In contrast, almost all smaller hotels (grade B and C) are family businesses.

### **Information Technology in the Irish Hotel Industry:**

There has been a slow but steady growth in the use of computers by those within the Hotel and Catering Industry. Most computerisation in hotels exists within Grade A\*, A and B\*. The computerisation that has occurred is only at operational level, this includes front office, stock control and accounts. None is at tactical or strategic level. The majority of systems are pre-packaged software exhibiting little customisation to cater for the specific needs of a particular hotel.

In a survey carried out in 1990<sup>2</sup> of those properties that are computerised within the Irish Hotel and Catering Industry, problems were identified in the change over to computerised systems. These included:

- Staff resistance to change;
- Misperceptions of expected performance of the system;
- Insufficient training resulting in incorrect use of the system;
- Perceived unreliability of the system;

However, senior management were conscious of the benefits of the technology. A major problem with the existing software was identified: the software available and supported in Ireland does not provide the various analyses needed by managers.

Carahost / Innsight and Custom Software Systems are the most commonly used packages. Over 60% of those hotels within Ireland that are computerised use programs from Custom Software Systems; the majority of these use Front Office, Accounts and Pay-roll, with some usage of the Stock Control Packages. Nearly 30% use or plan to use Carahost. The domination of two packages however, may be attributed as much to the lack of local software support for other products as to their suitability.

Some hotels and groups have recently had software developed for them. For example, the Ryan Group (which had used standard front office, stock control, pay-roll and accounts software) have now had developed a system specifically tailored for them. This software provides some extra managerial-level reporting.

### **Some Projects for Information Technology in the Irish Hotel Industry**

The need for Managerial level software is recognised within the industry. However, new software at either operational or managerial level is not produced quickly. The time span involved in the development of a new package for hotels can take more than two years. For example, one local hospitality software development company indicated that the cost to hire an extra programmer and the lead-time (more than 2 years) involved in the development of that software was prohibitive.

Within the Dublin College of Catering the lack of such software was a decided disadvantage when discussing in class tactical and strategic computing in the Hospitality Industry in Ireland. As a result a research plan was started some years ago and two of these projects, which it is felt will be of use to industry at managerial level, are discussed below. These are:

- a) An Expert System based Marketing Information System
- b) Strategic Decision Support System for the Irish Hotel Industry.

#### **a) Expert System-based Marketing Information System:**

Hospitality Managers are aware of some of the elements for the implementation of marketing strategies and the development of a marketing plan, but complete expertise in the marketing field may be unavailable to them. Greater emphasis is now placed within the hotel and catering business community on accurate and cost effective marketing of products<sup>3</sup>.

The reasons for this are twofold:

- the cost implication of ineffective or inaccurate target marketing and sales targeting (Advertising, Promotion, Direct Selling)
- Competition within the market place for travel and tourism in

Ireland has grown at an increasing rate over the last 15 years. Therefore there is an increased need for management to actively market their product.

The aims of the Expert System-based Marketing Information System (EMIS) are:

- to provide a generic Marketing Information System for the Hospitality Industry;
- to advise and aid the hotelier in the development of the initial marketing strategies and planning;
- to be available for consultation in the future if conditions or factors evaluated alter (for example, if the socio-economic factors or external tourist movement trends change or are forecasted to change). In such situations the hotelier can use the expert system to evaluate effects of these changes on the hotel's performance and maximise the marketing impact.

EMIS allows the management to develop a systematic uniform method of recording performance, planning activities and budgeting finance for all marketing operations for the property. It permits the management to use the expert advice for any area relating to marketing, on factors influencing their property and specific to the organisational objectives and goals set down in the overall business plan or overall mission statement.

EMIS builds the information from a broad overview to a more comprehensive specific level. The system is being developed to achieve a clear, accurate and complete assessment of the situation and to recommend the necessary actions to take relating to each marketing activity.

The system is being developed so that data and information from existing operational level software can be directly drawn into the managerial system. If some information is not directly available, the system will ask for it and will provide reports for control procedures suitable to the type and level of hotel in question.

EMIS is being developed so that customisation is possible. Considerations which EMIS will include are external factors such as fiscal, economic, legislative/social and tourism trends and internal factors such as hotel facilities, rate structure and target marketing.

The following diagrams show an example of screens from the prototype version of EMIS.

**The following data is required to be available from the organisation for evaluation by the Expert System:**

Sales Figures	0
Trends in annual and monthly sales revenues	0
Overheads Trends (Monthly and Annually)	0
Profit and Loss Achievements	0
Fixed and Current asset holdings	0
Liability extent (Annually and Monthly )	0

Please Answer "Y" for "Yes"  
"N" for "No"

In the above screen the user is asked to enter the existing financial data available. The information from this screen will be called upon later for evaluation of each of the marketing mix policies and procedures.

**The Product can be classified as an element of the Product Life Cycle (PLC) within the market place, under the following headings?**

New

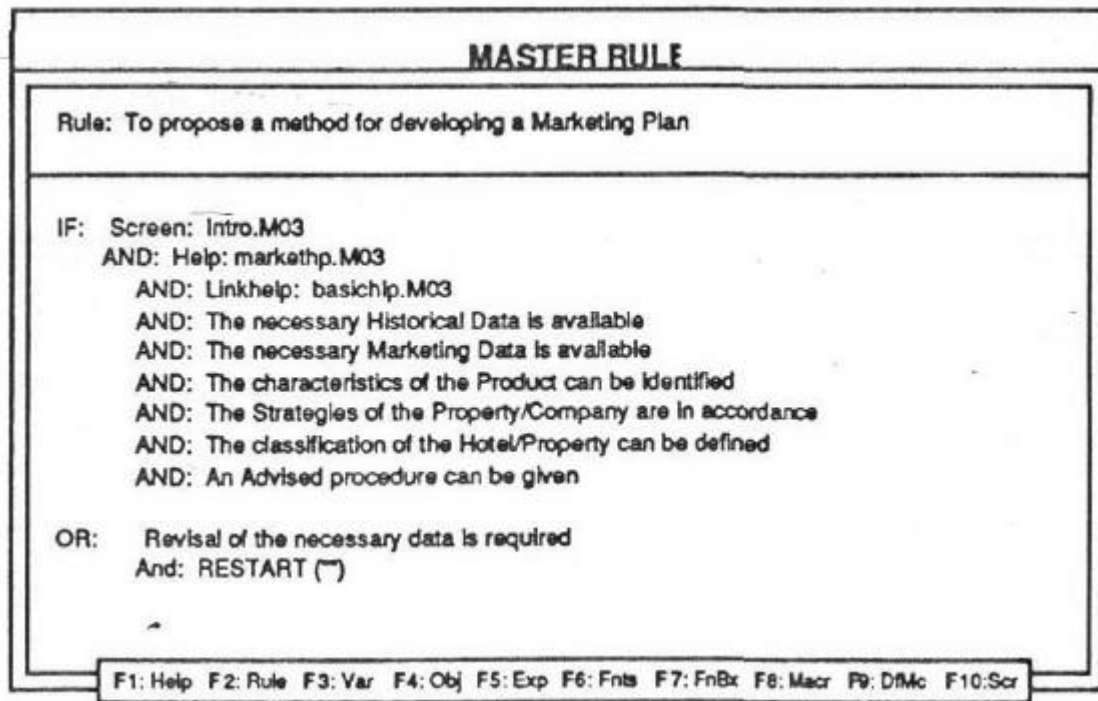
Growth

Mature

Decline

Unknown

It is necessary to identify the produces) position within the overall marketing Product Life Cycle - the system allows to the user to chose the perceived position however it may be necessary later within the system for a further and more accurate evaluation of the PLC position, this will be carried out by the expert system.



The above diagram is representation of the top layer master rule in the prototype version of EMIS; each attribute is treated as a sub-problem for classification and evaluation.

#### B) A Strategic Decision Support System for the Hospitality Industry

As of 1990, research had shown that no computerised MIS techniques were being used in the Irish Hospitality Industry<sup>4</sup>. At present there are only two semi-computerised management information systems in operation in the local industry. Both are based on the use of Spreadsheets but are not integrated with existing Hospitality software and one of these is primarily aimed at Marketing.

One of the larger hotel groups plan to have as part of its future strategy a computerised MIS, which will integrate with all software in all of their hotels. From such a system managers could achieve a complete overview of the group's performance. The need for such software is clear.

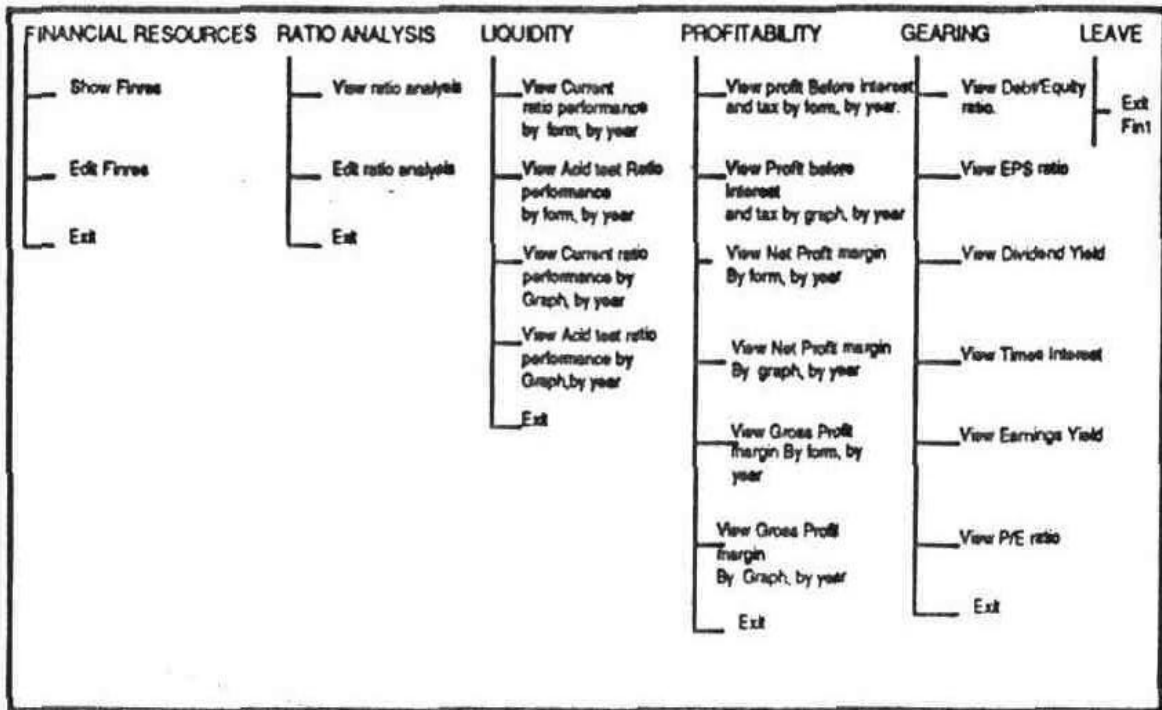
A Strategic Planning system of this nature is being developed in the Dublin College of Catering in conjunction with a local hospitality software company.

The aims of this project are:

- to provide a detailed analysis of current performance of the hotel
- to examine the impact of possible future strategies on the performance of the hotel
- to examine the external environment and its continuing impact on the performance of the hotel

A prototype system has been specified and is currently being developed. The following diagrams represent examples of screens from the prototype Strategic Decision Support System for the Hospitality Industry.

#### MENU FOR FINANCIAL MANAGEMENT APPLICATION.



The above is a diagram of the menu screen in the prototype system, which allows the manager to view the financial progress of the hotel by graph or form.

#### EXAMPLE OF A SCREEN FROM THE LIQUIDITY OPTION

DATE AS AT YEAR END:	31/12/1991				
RATIO CATEGORY:	LIQUIDITY	RATIO NAME:	CURRENT RATIO		
RATIO VALUE:	1.5				
VALUE ANALYSIS:	PERFORMANCE RATING - GOOD.				
ACTION TAKEN.	RESULT COMPARED TO INDUSTRY, GRADE, AND REGION VALUES.				
	RATIO	HOTEL	INDUSTRY	GRADE	REGION
	LIQUIDITY	1.5	1.2	1.8	1.4

The above screen views current ratio performance by form, by year - this form illustrates to the manager how his current ratio figure

performance is rated and what action is needed. The project is being developed using a program generator, without programming in the "traditional sense.

### **Conclusion:**

Thus far, the Hospitality Industry has been concerned mainly with operational level software. There is a growing awareness of the need for more sophisticated software. Some Hotel Groups have had developed their own basic Managerial level software, but development of such software for the industry as a whole has been lacking, partly because the local software industry has not had the resources to develop it. The Dublin College of Catering is undertaking a series of such projects, two of which have been briefly discussed, in order to rectify this situation. These will be of benefit to the industry and also to the College as the software developed will be used in class in order to better illustrate the concepts involved.

### **Biographical Note on the Authors:**

Sean Connell completed his studies in Hotel and Catering Management in 1990. He then worked for Marks and Spencer Pic in the UK for a year as a commercial manager. In September 1991 he returned to Dublin College of Catering to study for a Masters Degree and lecture in Computer Applications.

Elaine Sunderland, having completed her studies in Hotel and Catering Management, was employed in a small country house in Ireland as Deputy General Manager working closely with the owner in planning and execution of the development of the business through investment. She returned to college to undertake her Masters Degree and lecture in computer applications and management principles.

Ciaran McDonnell has worked within the computer industry and education for twenty years. He holds a Ph.D in Computer Science and has worked for the past nine years at the Dublin College of Catering as Head of Computing and Information Technology.

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